DEVICE HAVING SPARE I/O AND METHOD
OF USING A DEVICE HAVING SPARE I/0

ABSTRACT OF THE DISCLOSURE

A method and apparatus for correcting internally defective devices by routing signals on an I/O line to a spare internal network. Such devices enable a system designer to substitute good internal networks, e.g., memory arrays, for failing internal networks without loss of functionality at the I/O level. A device includes a plurality of I/O lines, a plurality of internal networks, a plurality of multiplexers for routing signals from the individual I/O lines to the individual internal networks, and a multiplex controller for controlling the signal routing. Routing can be performed using multiplexers that operatively interconnect any I/O line with any internal network, multiplexers that shift signals on an I/O line to and adjacent internal network, and/or multiplexers that can shift signals on an I/O through a multiplexer to any other multiplexer, and then to any internal network.